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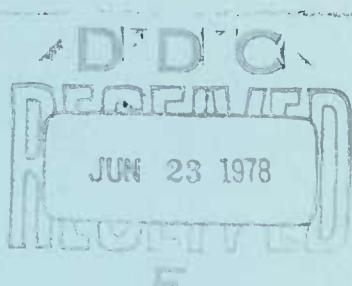
13. ABSTRACT
The conclusions of this study are that the obstacles to the inclusion of technical assistance costs in bid evaluation are formidable. Deficiencies in technical data packages (TDP's), the absence of data bases reflecting technical assistance costs, and the inability to state and measure assistance costs with precision militate against the application of technical assistance costs as an "other factor." On the other hand, it does appear that potentially high costs of technical support could be used as an element in determining the responsibility of a prospective contractor. In addition, it would seem that development and use of a process control specification would reduce the need for technical assistance costs on certain contracts.

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EVALUATION OF PURCHASE COST FACTORS



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ARMY PROCUREMENT RESEARCH OFFICE

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APRO 705

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EVALUATION OF PURCHASE COST FACTORS

by

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APRIL 1978

Information and data contained in this document are based on input available at time of preparation. Because the results may be subject to change, this document should not be construed to represent the official position of the US Army Materiel Development and Readiness Command unless so stated.

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EXECUTIVE SUMMARY

A. BACKGROUND: In the procurement of many supplies and services the Army furnishes technical assistance to contractors in the form of engineering support to production and inspection and testing. Yet these legitimate costs of Government assistance are not included in the evaluated bid price for the supplies or services. Failure to include these costs in the evaluation may result in awards which do not represent the lowest cost to the Government. With an apparent renewal of interest in lowest cost procurements, it is time to assess the feasibility of including technical assistance costs in the evaluation of lowest overall purchase price.

B. OBJECTIVES: The objectives of the study are: (1) to determine the feasibility of including in the evaluated bid price on Army contracts the costs of technical assistance to be provided to prospective contractors; and (2) if feasibility is established, recommend procedures for applying and testing the concept.

C. RESEARCH METHOD: The research method included: (1) the examination of the legal, regulatory, economic and practical constraints related to the usage of technical assistance costs as an element of the purchase price evaluation; and (2) interviews with procurement and technical personnel from industry and Government.

D. CONCLUSIONS: The obstacles to the inclusion of technical assistance costs in bid evaluation are formidable. Deficiencies in technical data packages (TDP's), the absence of data bases reflecting technical assistance costs, and the inability to state and measure assistance costs with precision militate against the application of technical assistance costs as an "other factor." On the other hand, it does appear that potentially high costs of technical support could be used as an element in determining the responsibility of a prospective contractor. In addition, it would seem that development and use of a process control specification would reduce the need for technical assistance costs on certain contracts.

E. RECOMMENDATIONS:

1. Do not attempt to incorporate technical assistance costs as an "other factor" in the bid evaluation process at the present time.
2. Develop "additional" or "special" standards for application on procurements where high costs of technical assistance are anticipated.
3. Develop a process control specification to be used on contracts with significant production engineering requirements.
4. Investigate ways to refine existing data bases so that technical assistance costs can be more precisely identified.

CHAPTER I
INTRODUCTION

A. GENERAL.

Buying supplies or services which result in the lowest ultimate cost to the Government is the stated policy of the Department of Defense (DOD).¹ However, the unwritten policy, for all practical purposes, has been generally to award contracts on the basis of lowest bid price with little consideration given to other cost factors. Critics have maintained that the "low bid" practice frequently does not result in the most economical buy for the Government.

A case in point has concerned the matter of technical assistance provided to contractors. In the procurement of many supplies and services the Government furnishes technical assistance to contractors in the form of engineering support to production and inspection and testing. Yet these legitimate costs of Government assistance are not included in the evaluated purchase price for the supplies or services. The technical assistance costs can vary significantly with contractor capability. Some contractors may need little or no assistance; others may require a cadre of engineers to assist them in solving production problems. Failure to include these costs in the evaluation of bids or proposals may result in awards which do not represent the lowest cost to the Government.

¹ASPR 3-801.1.

Industrial firms often use vendor surveys and historical experience in selecting sources. In making the subcontract award decision, they may choose to consider the firm's costs of providing technical support and source inspection to the potential suppliers. In this way the commercial companies feel they are procuring from the lowest cost producer.

Presently, there is no known practice or procedure for applying technical assistance factors in DOD procurements. With an apparent renewal of interest in "lowest ultimate cost" or "best buy" procurements, it is time to assess the feasibility of including technical assistance costs in the evaluated purchase cost of Defense procurements.

B. OBJECTIVES.

1. The general objectives of this research are to:

a. Determine the feasibility of including in the evaluated bid price on Army contracts the costs of technical assistance to be provided to prospective contractors by the Army.

b. If feasibility is established, recommend procedures and techniques for applying and testing the concept.

2. The specific objectives are to:

a. Confirm the legal and procedural bases for evaluating technical assistance costs as an element of a bidder's purchase price.

b. Identify constraints of the Army's acquisition system which must be overcome for successful application of the technique.

c. Assuming feasibility, identify the factors of technical assistance which can be costed and evaluated.

- d. Discuss methods of quantifying such factors.
- e. Suggest ways to apply such factors efficiently and equitably to competitive procurements.
- f. Determine any limitations required to increase the probability that the technique may be implemented successfully. They may be related to contract dollar value, method of procurement, type of contract, and the type of technical data package (TDP).
- g. Determine extent of further effort required to test the concept.

C. SCOPE.

The title of this project, Evaluation of Purchase Cost Factors, suggests a comprehensive treatment of "other factors" and their application to Defense procurement. However, a decision was made to concentrate on one set of "other factors", namely, technical assistance costs. Two reasons support this decision. First, the letter initiating this study addressed only technical assistance costs as a basis for the research. Secondly, "other factors" has been a controversial subject for years in Defense procurement and its usage in contract awards has been limited. A cursory review of DOD attempts to apply "other factors" reveals that its application must be selective if there is to be any chance of success.

One additional caveat is necessary. The study is restricted to the technical assistance provided to contractors by the Army. Admittedly, the Defense Contract Administration Services (DCAS) provides the bulk of technical support to contractors. But the cost of technical assistance by DCAS is beyond the scope of this project.

D. METHODOLOGY.

The approach taken was to review and evaluate the usage of applications of purchase cost factors, both in Government and in commercial contracting. An examination was made of the legal, regulatory, economic and practical constraints on the use of "other factors" in determining the lowest cost to the Government. Interviews were conducted with procurement and legal personnel, quality assurance representatives, production engineers, and contract administrators. Included in the sample were officials from industry, state government, and, of course, the Department of Defense.

CHAPTER II

LEGAL AND PROCEDURAL BASES

A. INTRODUCTION.

The purpose of this chapter is to determine if the existing procurement laws and regulations of the Government provide for including technical assistance costs in the evaluated purchase price for Government supplies and services. The specific portions of the statutes and regulations which are relevant to this study will be discussed. In addition, pertinent legal decisions of the Comptroller General are reviewed and analyzed. To eliminate possible confusion, the discussion distinguishes between the negotiation method of procurement and the formal advertising method. Those knowledgeable about Defense procurement recognize the importance of this distinction. Historically, procurement officials have had more flexibility in making awards under negotiation than formal advertising. It would seem then that the problems posed by this study primarily relate to the use of "other factors" when procurements are to be advertised.

B. ARMED SERVICES PROCUREMENT ACT.

The Armed Services Procurement Act enacted in 1948 has little to say about contract awards. But much significance can be attached to what is included. From the paragraphs below it can clearly be inferred that Congress has not restricted DOD to awarding contracts solely on the basis of lowest unit price.

1. Formal Advertising. Under 10 U.S.C. 2305(c), Formal Advertisements for Bids, the following appears:

Awards shall be made with reasonable promptness by giving written notice to the responsible bidder whose bid conforms to the invitation and will be most advantageous to the United States, price and other factors considered.

2. Negotiation. In 10 U.S.C. the term "price and other factors considered" is used when addressing the subject of written or oral discussion. In the same paragraph "fair and reasonable prices" is also used.

C. FEDERAL PROPERTY AND ADMINISTRATIVE SERVICES ACT OF 1949.

The one reference to awards of contracts which appears in the civil agency statute is found in 41 U.S.C. 253(b), Advertising Requirements. It reads the same as the Armed Services Procurement Act.

D. FEDERAL ACQUISITION ACT OF 1977 (PROPOSED).

The proposed Chiles' bill which has been introduced in Congress is designed to replace the two statutes mentioned previously with a single modern law. Since it is the only proposed procurement bill before Congress, it should be useful to examine its contents to detect possible changes in the mood of Congress. Apparently, an even stronger stand for "best buy" has emerged.

First, a policy statement in Section 2 states that the Government. . . shall act so as to -- (1) best meet public needs at the lowest total cost." Total cost as defined in Section 3 of the proposed act:

Means all resources consumed or to be consumed in the acquisition and use of property or services. It may include all direct, indirect, recurring, nonrecurring, and other related costs incurred or estimated to be incurred in design, development

test, evaluation, production, operation, maintenance, disposal, training, and support of an acquisition over its useful life span, wherever each factor is applicable.

Secondly, the evaluation and award rules in Section 203 of "Title II -- Acquisition by Competitive Sealed Bids" still states that "award shall be made to the responsible bidder whose bid conforms to the invitation and is most advantageous to the Government, price and other factors considered."

In "Title III -- Acquisition by Competitive Negotiation", Section 303(d) says:

Award shall be made to one or more responsible offerors whose proposal(s), as evaluated in accordance with the terms of the solicitation, are most advantageous to the Government.

Additional guidance is provided in Section 302 (b)(1) which reads:

Each solicitation shall include both the evaluation methodology and the relative importance of all significant factors to be used during competitive evaluation and for final selection. In any case, if price is included as a primary or significant factor, the Government's evaluation shall be based to the maximum extent practicable on the total cost to meet the public need.

Implicit in the above remarks pertaining to negotiation is that awards may be made on a basis of other than price. Further, even if price is important, total cost (underlining added) should be the basis of the award.

E. ARMED SERVICES PROCUREMENT REGULATION (ASPR).

The policy of the Armed Services Procurement Act is expounded in the ASPR. Specific references to evaluation of bids and awards of contracts are in Sections II and III.

1. Formal Advertising (Section II).

Paragraph 2-407.1 includes essentially the same words found in the Act: "Unless all bids are rejected, award shall be made by the contracting officer, within the time for acceptance specific in the bid or extension thereof, to that responsible bidder whose bid, conforming to the invitation for bids, will be most advantageous to the Government, price and other factors considered." Further, paragraph (i) of Section D - Evaluation Factors for Award - includes the following: (Section D of the IFB will contain) "a statement of the exact basis upon which bids will be evaluated and award made, to include any Government costs or expenditures (other than bid prices) to be added or deducted, or any provisions for economic price adjustment as factors for evaluation."

2. Negotiation (Section III).

In paragraph 3-801.1 the following fundamental policy statement appears: "It is the policy of the Department of Defense to procure supplies and services from responsible sources at fair and reasonable prices calculated to result in the lowest ultimate overall cost to the Government."

In paragraph 3-501, information pertaining to the preparation of Section D of a Request for Proposals is similar to that pertaining to Section D of an IFB. The statement calls for the inclusion of - "factors other than price including technical quality (when technical proposals or quotations are requested), which will be given paramount consideration in the awarding of the

contract; when an award is to be based upon technical and other factors, in addition to price or cost, the solicitation shall clearly inform offerors of (A) the significant evaluation factors, and (B) the relative order of importance the Government attaches to price and all such other factors."

F. COMPTROLLER GENERAL.

1. Formal Advertising. In his definitive book "Government Contract Bidding", Paul Shnitzer, Associate General Counsel of the General Accounting Office, points out that the term "other factors" as used in procurement means.

(1) the cost to the Government of shipment to initial destination (where known) on f.o.b. origin procurements, and (2) other appropriate cost factors which are set out for evaluation purposes in the IFB.²

Item (2) of the above quotation is central to this research, but most of the decisions pertaining to "other factors" have actually dealt with shipping costs, item (1) of the quotation. However, with respect to item (2) a consistent Comptroller General position has been established.

The Comptroller General will support a decision to award on an "appropriate cost factors" basis, provided certain conditions are met. These can best be described by quoting decisions of the Comptroller General:

The basis of evaluation which must be made known in advance to the bidders should be as clear, precise and exact as possible. Ideally it should be capable of being stated as a mathematical equation. In many cases, however, that

²Federal Publications Inc., 1976, p. 405.

is not possible. At the minimum, the "basis" must be stated with sufficient clarity and exactness to inform each bidder prior to bid opening, no matter how varied the acceptable responses, of objectively determinable factors from which the bidder may estimate within reasonable limits the effect of the application of such evaluation factors on his bid in relation to other possible bids. By the term "objectively determinable factors" we mean factors which are made known to or which can be ascertained by the bidder at the time his bid is being prepared. Factors which are based entirely or largely on a subjective determination to be announced by representatives of the contracting agency at the time of or subsequent to the opening of bids violate the principle for the reason that they are not determinable by the bidder at the time his bid is being prepared.³

More recent decisions have said essentially the same thing.

In situations of this nature, where a firm basis has not been established for computing evaluation factors with reasonable certainty, it has been our consistent position that such factors may not be used in evaluation of the products offered.⁴

Costs which may be difficult to quantify should not be used as an evaluation factor except after thorough study and consideration of the pros and cons by all interested agencies, establishment of proper criteria for the use of this factor, and specific notice to bidders in invitations.⁵

The following statements of the Comptroller General also pertain to this issue:

An evaluation factor which reflects on actual cost to the Government may be used even if it gives one firm a distinct competitive advantage.⁶

³ Comp. Gen. 380 (1956).

⁴ B-171127, March 10, 1971.

⁵ 45 Comp. Gen. 435.

⁶ Shnitzer, p. 406.

The cost to be evaluated must be directly relatable to the procurement. Speculative or intangible costs may ⁷ not be considered whether or not provided for in the IFB.

To summarize, the Comptroller General will allow the use of "other factors" in formal advertising if explicit evaluation criteria are included in the invitation for bids. The criteria must be clear and exact enough for each bidder to arrive at the same understanding. The bidder must be capable of responding objectively in specific numbers or dollars. Finally, the Government must be able to pin down and evaluate the costs; they cannot be vague or uncertain.

2. Negotiation. As discussed previously in this chapter, the law and regulation provide for award of negotiated contracts on the basis of factors other than price. Hence, the Comptroller general does not question the legality of awards on this basis. Decisions have related primarily to whether the criteria to be used in the evaluation were properly stated in the RFP,⁸ whether the competitive range was correctly established,⁹ or whether negotiations were conducted in accordance with law and regulations.¹⁰ An analysis of the opinions of the Comptroller General show that factors other than price historically have been used in proposal evaluation. The offeror with the lowest price often is not awarded the contract. Finally, considerable judgment and discretion is afforded the contracting officer in making the award decision.

⁸ B-183614, January 14, 1976.

⁹ B-184913, January 22, 1976.

¹⁰ B-152598, December 3, 1963.

CHAPTER III

FACTORS OF TECHNICAL ASSISTANCE

A. INTRODUCTION.

It has been established that the "other factors" technique, when properly applied, is a legal and proper ingredient of the evaluation process. The next step is to identify specifically the "other factors" which are within the scope of this project and to determine to what extent they are currently applied in Governmental and industrial contracting.

Shnitzer included the following in the category of "other factors." "(1) foreseeable costs or delays to the Government resulting from differences in (a) inspection or location of supplies, (b) transportation, (c) maintenance and (d) similar factors; (2) advantages or disadvantages of multiple awards; and (3) other factors required by law to be considered in evaluation."¹¹ Shnitzer further says "Most tangible factors which relate to the cost to the Government may be included in the bid evaluation."¹² These statements, then, leave the door open for a number of possibilities.

¹¹P. 405-406.

¹²Ibid., p. 406.

In the letter of initiation for this project, specific reference was made to the technical assistance costs of inspection and engineering support to production. Hence, these were the factors which became the focal point for the research.

B. TECHNICAL ASSISTANCE COSTS.

1. Inspection Assistance.

Inspection assistance consists of post-award support provided to contractors by Government quality assurance personnel. It includes such activities as instruction by Government personnel in inspection methods, quality control systems, and special contract testing requirements. In some cases actual inspection is conducted to determine compliance of product with contract requirements and advice is given for upgrading of processes. The majority of the assistance would be provided "on site" at the producer's plant.

2. Engineering Support to Production.

By definition engineering support to production is defined as the engineering assistance provided contractors to help them in the solution of specific production problems. This can include advice on adapting production lines to meet Government requirements, interpretations of contract provisions, and a variety of other technical matters. This type of support is particularly applicable to new contractors or to those who have not produced the contracted items recently. In summary, it is "hands on" assistance provided by Government engineers and technicians which has as its purpose the objective of assuring that the contractor will be able to produce in conformance with the Government technical data package (TDP).

C. CURRENT APPLICATION.

1. Federal Government.

No evidence was found that technical assistance costs have ever been used directly in the evaluation of a contractor's bid. Indirectly, it is possible that they were given some consideration in determining a prospective contractor's responsibility or that they were an element of the technical evaluation in negotiated contracts. But certainly they have not been considered to the degree suggested by this study.

2. State and Local Governments.

Apparently, state and local governments do not employ technical assistance costs in evaluating contract bids. Contacts were made with the Model Procurement Code Committee of the American Bar Association and a key State purchasing official recommended by the Committee.¹³ No one could cite an instance where technical assistance was an element of the award decision.

3. Industrial Practices.

It was mentioned in Chapter I that industrial firms use vendor surveys and historical data in the selection of subcontractors or suppliers. Naturally, private industry is not required to follow the rigid rules of the

¹³The Committee is currently developing a Model Procurement Code for States and Localities which is designed to provide more uniformity to contracting at the state and local levels.

Department of Defense in deciding who is to receive a contract award. However, the objectives of the two are the same: to obtain quality products, within a reasonable period of time, for a reasonable price. Thus, the practices of American industry should be transferable to DOD - at least to a degree. The term usually applied to the industrial practice is Vendor Rating System. Actually, rating systems incorporate evaluations of a firm's management, financial status, price, ability to meet schedules, quality of product, as well as requirements for technical assistance. A previous APRO study¹⁴ revealed that practically all firms performed some type of vendor evaluation. But only one of ten firms contacted had a formal system which resulted in the assignment of specific scores to suppliers. Even under this system a high rating did not guarantee contract award. Buyer judgment was the major determinant of the award decision, not the rating factor. A discussion of the Vendor Rating System currently employed by a major manufacturer actually provided the impetus for this research.¹⁵ While the study itself focused on the company quality assurance procedures, it was specifically the vendor rating method that drew the attention of key Government personnel. Examples were

¹⁴ APRO 201, Lange, G. and Heuermann, R., An Analysis of the Army's Contractor Performance Evaluation Program. 1973.

¹⁵ Presentation on Quality Systems, Process Control and Nondestructive Testing, Honeywell.

given in which low bidders were not awarded contracts due to technical limitations. The company felt the costs to overcome the technical deficiencies of the low bidders would more than offset the benefits of the low bids. However, it must be noted that the decisions were not based on a specific score, rather on a subjective determination of a source's price and capability.

CHAPTER IV
THE AWARD PHASE AND
APPLICATION OF FACTORS

A. GENERAL.

The award of contracts introduces two ideas fundamental to an understanding of Federal procurement - responsibility and responsiveness. Consideration of the factor of technical assistance can relate to either responsibility or responsiveness. The purpose of this chapter is to examine how the "other factor" of technical assistance may be applied during the solicitation and award phases of Defense procurement. The chapter will be divided into the two major segments of responsibility and responsiveness and a discussion of the potential application of technical assistance to each.

B. RESPONSIBILITY.

Responsibility relates to a prospective contractor's capability to perform on a Government contract. It applies equally to formally advertised or negotiated contracts. Contracts shall be awarded to responsible prospective contractors only.¹⁶ A pre-award survey of a prospective contractor is frequently conducted in order to assist in the responsibility decision. A responsible source is one who meets the standards established by the ASPR.

¹⁶ASPR 1-902.

The minimum general standards required of a prospective contractor are (1) adequate financial resources; (2) the ability to comply with delivery/performance schedule; (3) a satisfactory record of performance; (4) a satisfactory record of integrity and (5) otherwise qualified and eligible to receive an award under applicable laws and regulations. Standards (2) and (3) are potentially related to the technical assistance factor. Technical support required by the prospective contractor can have a definite impact upon his capability to meet the delivery schedule established by the Government. It is quite possible that no deliveries can be made without the help of the Government. As to past performance, several procurement officials interviewed expressed the view that this was the proper place for considering technical support costs. In their opinion inordinate costs of technical support requirements as revealed by experience on previous contracts should be reflected on the pre-award survey. Justification for the position that technical support is properly a part of the responsibility determination can be found in the ASPR. Under K-302 the following quotation is found:

"A persistant pattern of the contractor's need for costly and burdensome Governmental assistance (engineering, inspection, testing) that was provided in the Government's interest but not contractually required, shall be treated in the pre-award survey as an element for separate narrative discussion to be appended to the Form."

The form referred to is DD Form 1524: Pre-Award Survey of Offeror.

Another supporting argument is one of the entries on DD Form 1524-2: Pre-Award Survey of Offeror Part II Quality Assurance. Section III of the form contains a statement which reads: "Offeror will require unusual assistance from the Government."

The ASPR does not elaborate on how much weight is to be assigned the technical assistance factor. Apparently, it is felt that this should be left to the discretion of the Contracting Officer. But the fact that technical assistance is called out separately on two forms conveys the impression that it should be given serious consideration.

C. RESPONSIVENESS.

While responsibility relates to the bidder, responsiveness relates to the bid. It has meaning only in formal advertising.¹⁷ "To be considered for award, a bid must comply in all material respects with the invitation for bids so that, both as to the method and timeliness of submission and as to the substance of any resulting contract, all bidders may stand on an equal footing and the integrity of the formal advertising system may be maintained."¹⁸ The essence of responsiveness is wrapped up in this lengthy statement. In effect, a bid is responsive when it does not deviate from the requirements of the invitation for bids. On occasion, the distinction between whether information deals with responsibility or responsiveness is not clear. An example is a requirement that a contractor furnish descriptive literature with his bid. Is the information requested for the purpose of making a responsibility

¹⁷ B-187367, January 26, 1977.

¹⁸ ASPR 2-301(a).

determination or is it necessary to evaluate the responsiveness of the bid. The Comptroller General has ruled on the matter in the following way. If the descriptive data is furnished to enable the Government to evaluate the characteristics of the product being bought, then it is an element of responsiveness. Conversely, if the data furnishes information about a bidder's technical knowledge and, hence, his capability to do the job, then it properly fits into the determination of responsibility. The Comptroller General goes further in saying that it need not be furnished with the bid if the data is for the purpose of evaluating the responsibility of a bidder. That is, a bidder who fails to submit data of this type with his bid cannot be turned down on the grounds that he is nonresponsive.¹⁹

D. TECHNICAL ASSISTANCE AND RESPONSIVENESS.

1. Introduction.

The primary thrust of this research has been to examine the feasibility of incorporating technical assistance costs as an element of responsiveness in formally advertised procurements. It is here that the technique would seem to exert its greatest impact. Inclusion of technical assistance costs as an element of the bid would be a distinctly different way of doing business.

¹⁹ 42 Comp. Gen. 464 (1963).

2. Methods of Expressing Technical Factors.

a. General. To repeat, the Comptroller General will accept the inclusion of other factors if they are stated quantitatively and can be measured objectively prior to making the award. This means that the provision in the invitation for bids must include criteria against which a prospective contractor can submit a specific response that is either expressed in dollars or numbers that can be converted to dollars. In addition, the bid must be capable of verification by the Government. The absence of this capability will undermine the procedure.

b. Alternative Methods. The alternative methods which could possibly be applied are described below.

(1) Handicapping of bids. In this context handicapping of bids refers to adding costs for "other factors" to the bid price.

(a) Procedure. Bidders submit bids under the usual procedures with one exception. The IFB clearly spells out in Section D that the evaluation will be based in part on the amount of engineering or inspection assistance the Government will be required to furnish. The award will be based on the lowest combination of contract price and cost of Government technical support as determined by the Government. The technical support cost is, in effect, a handicap application such as that employed in evaluation of bids requiring the use of Government Furnished Property.²⁰

²⁰ASPR 13-501.

(b) Evaluation. Evaluation of the technical support factor requires the Government to use historical data. The historical data must reflect costs of assistance which the Government has provided on previous contracts for the item.

(c) Obstacles. Obstacles to the use of this alternative are formidable. The candidate for application should be an item which has been successfully advertised in the past with a high degree of assurance that the TDP is free of deficiencies and ambiguities. As confidence in the TDP decreases, the credibility of the technique diminishes. The amount of technical assistance required becomes an unknown quantity incapable of evaluation. Another problem is that historical data bases currently do not exist. Contracting organizations intuitively know that certain contracts are going to be more costly for the Government to administer than others, due to differences in contractor capabilities. But the agencies cannot document these intuitive feelings with unimpeachable data. Data systems are not presently designed to provide the information in this format. Even if historical data systems existed, disappointed bidders could be expected to protest on the grounds that the historical costs do not apply on the current contract. Additionally, small business firms can be expected to protest that the procedure discriminates against small business in general and any bidder other than the equipment developer in particular. Finally, there is the problem of evaluating the first-time bidder. No historical cost data exists. This means that you must either throw out his bid or apply an arbitrary factor developed from previous experiences with new producers. In either case, protests are probable.

(2) Bid price plus technical support cost as an "other factor."

Unlike the handicapping technique, this alternative requires the bidder to furnish a manhour figure for the amount of technical assistance he will require on the contract.

(a) Procedure. A bidder submits bids which include two sets of numbers, a price for the item and the manhours of engineering or inspection assistance he will need. The Government will apply an established cost-per-manhour figure to the manhours provided. Inherent in this method is the requirement that the Government adequately define the assistance which is available. A variation of the procedure could require the bidder to state a guaranteed maximum related to the assistance needed. This method is similar to the Guaranteed Maximum Shipping Weights and Dimensions clause.²¹ Either variation will require a contractual clause which calls for an equitable adjustment in the contract price up or down if actual manhours needed are greater or lesser than the submitted figures of the contractor. The dollar amount would be directly related to the number of manhours the contractor actually exceeded or underran his proposed specified manhours of technical support.

²¹ The clause in FAR 7-2003.16 requires a bidder to submit maximum weights and dimensions so that transportation costs can be determined. If delivered supplies exceed the maximums, the contract price shall be reduced.

(b) Data base. To some degree, use of the technique would obviate the need for the costly data base identified with the handicapping method. After all, each bidder is handicapping his own bid and will incur a reduction in his price if he understates the manhours of assistance needed. But it must be recognized that the Government still is required to evaluate all bids. Hence, a data base sufficient for the evaluation is still essential.

(c) Obstacles. Most of the obstacles described under the handicapping method remain. A deficient or defective TDP will not allow the Government to enforce the price reduction provision. A larger problem is that the deficient TDP will destroy the integrity of the concept. Bid protests could also be anticipated. Take, for example, the case of the bid which includes zero manhours for technical support. The bid could well be low, resulting in a contract award. Yet technical support costs could actually be significant on the contract. Under the equitable adjustment provision the Government would be reimbursed the technical support costs. But this doesn't alter the fact that the bidder who submitted the zero manhour figure has a decided advantage over his competitors. Naturally, the losing bidders will take their case to the Comptroller General. You can also assume that, in time, all bidders may choose to submit zero manhours for technical support since they have little to lose. Such gaming would soon destroy the concept.

Even under the best of conditions, administration problems may occur. Consider the situation where all bidders conscientiously state their manhour requirements. Determining the equitable adjustment for a variance in technical support hours may be difficult. The technical support records of the

Government and contractor may not agree. The question of whether the support was Government-directed or contractor-required may arise. Disagreements are possible as to the causes of the technical problems. Are they due to lack of technical competence of the contractor or to defective specifications?

It has also been suggested that the technique could have other repercussions. The contractor may be incurring significant technical support costs. In order to hold these costs down, he may choose to resolve the technical problems within his own organization. This alternative could lead to unacceptable products, late deliveries, or both. While a default termination may be a remedy, it is generally considered a measure to be employed only as a last resort.

The final problem pertains to the determination of the dollars which will be applied to a manhour assessment of technical support. Should it include the hourly rate for the average grade of the technical specialist, per diem, travel, car rental, etc. If travel costs are included, does this not make contractor location with respect to the Government technical office a factor related to competitive advantage. These issues may seem trivial. But they epitomize the actual problems that a contracting officer can expect to encounter in the application of the technique.

E. TECHNICAL ASSISTANCE AND RESPONSIBILITY.

1. Introduction

It has previously been suggested that a number of procurement officials were of the view that the greatest hope for considering technical assistance lay with responsibility decisions. To some degree, it is already

used as a part of the evaluation of a prospective contractor's ability to meet schedule and quality requirements. But, in reality, unless it can be shown that the prospective contractor could not literally deliver quality products on time because of needs for technical assistance, the low bid decision will prevail. Degrees of responsibility are not relevant in making awards in Government contracts. A bidder or offeror is either responsible or nonresponsible. It is not a question of one being more responsible than another. The problem then becomes one of surmounting this condition.

2. Method of incorporating technical assistance costs into the determination.

Additional or special standards of responsibility appear to be the only means of adding "teeth" to the consideration of technical assistance costs under responsibility.

a. Additional standards. Where technical assistance costs are potentially substantial, include an additional standard related to the need for technical assistance. ASPR 1-903.2 allows procurement officials to include standards over and above the minimum standards described in Chapter IV and 1-903.1 of the ASPR. The additional standards may apply to production, maintenance, construction, and research and development contracts. Under the terms of ASPR 1-903.2 the additional standards require a prospective contractor to:

(i) have the necessary organization, experience, operational controls and technical skills, or the ability to obtain them including when appropriate, such elements as production control procedures, property control system and quality assurance measures applicable to materials produced or services performed by the prospective contractor and subcontractors; and

(ii) have the necessary production, construction and technical equipment and facilities, or the ability to obtain them.

b. Special standards. If the situation warrants, develop special standards of responsibility related to technical assistance provided by the Government. ASPR 1-903.3 gives contracting officers the discretion to establish special standards applicable to a particular procurement or class of procurements. Additionally, the Comptroller General has, on numerous occasions, upheld the use of special standards.²² Shnitzer points out that an IFB may, on occasion, require a bidder to have certain specialized experience as a prerequisite to award.²³

For example, he may be called upon to show that (1) he has had a minimum number of years of experience in manufacturing a particular type of item, or (2) he has previously performed work of a stated nature.

Such a requirement will ordinarily be enforced as written.

Shnitzer goes on to say that the validity of specialized experience requirements depends on: (1) the contracting officer's abiding by the factors after he has seen the bidding results and (2) the requirements reasonably relating to bidder responsibility and not being unduly restrictive.²⁴

²² B-188192, March 24, 1977; B-188026, April 29, 1977; B-187573; January 17, 1977.

²³ p. 345-346.

²⁴ Ibid., p. 346.

According to the ASPR, technical personnel or other specialists shall assist the contracting officer in developing the standards. Specific reference is made in the regulation to situations where "a history of unsatisfactory performance has demonstrated the need for insuring the existence of unusual expertise or specialized facilities necessary for adequate contract performance." To be sure, the ASPR example pertains to a more drastic condition than additional costs of technical support! But the door appears to be open for establishing special standards when compelling reasons are present. The significant cost differences of technical support seem to be a sufficient reason.

F. TECHNICAL ASSISTANCE AND PROCESS CONTROL.

Control of production processes is another facet of the technical assistance issue. On two occasions personnel interviewed stated that a possible method of holding the reins on costs of Government technical assistance was to control the manufacturing process. The idea was to develop a process control specification and incorporate the document into the contract. The specification would require the contractor to have a process control system acceptable to the Government. The system must be specifically designed to control the manner in which the contractor produces the item on the assembly line. The contractor would have to document each step of the process, describe the equipment and tools used, the special skills required, and other pertinent characteristics of the process. He must also assure the Government that in practice, employees are adhering to the prescribed system. The philosophy of the process control system is that prevention of technical assistance

problems is more cost effective than correction. Two successful precedents support this philosophy. Both MIL-Q-9858A, Quality Program Requirements, and MIL-I-45208A, Inspection System Requirements, have proven their worth over the years. Both are control documents which pertain to quality assurance. It is generally accepted that the amount of nonconforming product has been reduced by their usage with an accompanying reduction in costs to the Government. Obviously, the contractor will reflect the cost of implementing a system in his contract price.

The process control requirement would be an element of the responsibility determination. It is possible to treat it as a special standard. The prospective contractor would have to demonstrate a capability to institute and implement a process control program.

CHAPTER V

ACQUISITION SYSTEM CONSTRAINTS

A. INTRODUCTION.

The potential difficulties of including technical assistance costs as an evaluation factor in formally advertised procurements were discussed in paragraph IV D. At the risk of redundancy, they are consolidated below for convenience. The obstacles listed are by no means exhaustive, but they include those most often mentioned in interviews.

B. TECHNICAL DATA PACKAGE.

Technical assistance and the TDP are inseparable. Engineering assistance to production is concerned with a contractor's ability to meet the requirements of the TDP. Inspection assistance usually deals with tests and examinations and inspection planning, all of which are related to the technical specifications. In the final analysis, success or failure in the use of the technical assistance factor will depend upon the quality of the TDP. If the contractor can prove that the TDP is defective or ambiguous, then he will be able to dilute the effectiveness of the technical assistance factor. The Government will be responsible for the costs. They will not be able to enforce price reductions upon the contractor for exceeding the technical assistance he proposed. In fact, the credibility of the whole idea will be seriously impaired. One major loss in Court by the Government due to a defective TDP associated with technical assistance costs is likely to put an end to attempts to apply the technical assistance technique. Opponents of the

idea have cited the TDP problem as the primary reason for their opposition. They point out that no TDP is sacrosanct; each has deficiencies. Further, technical assistance would be expected to play its most significant role in those areas where a detailed TDP is referenced. Production engineering and inspection are vitally linked to detailed design packages. And detailed packages are most subject to deficiencies and ambiguities. In summary, the TDP is the primary chink in the technical assistance armor. A "proven" TDP is a prerequisite for successful implementation.

C. SMALL BUSINESS.

Small business firms can be expected to resist the inclusion of technical assistance as an evaluation factor. Small firms normally do not have the engineering staffs nor the quality assurance organizations of large companies. Hence, they usually require more help from the Government. Thus, their bids, in most instances, would reflect a higher price for technical assistance than their large business competitors. Rightly or wrongly, a majority of small business firms will interpret the technical assistance procedure as another attempt to circumvent the policy of awarding a fair proportion of Government contracts to small business firms.

D. DATA BASE.

The ability to verify a prospective contractor's bid for technical assistance is a necessary feature of the technique. Without it, the costs would be speculative and intangible, and, hence, unacceptable to the Comptroller General. An historical data base would appear the only means of verification. The base would reflect costs incurred by contractors for technical assistance

on past Government contracts. At present, data bases do not exist in a format which can be used. Either new systems or significant modifications to existing systems would be required. At best, the technical assistance factor could be used in only a limited number of procurements. It is unlikely that revisions to data bases could be justified. One additional problem should also be mentioned. The data bases which would require modification are those involving production engineering and quality assurance, non-procurement functions. Resistance to change could be anticipated.

E. LITIGATION.

A number of persons interviewed expressed the opinion that use of the technical assistance factor would result in litigation on those procurements. First, it could be expected that bid protests to the Comptroller General will increase, at least initially. As discussed in paragraph C above, some firms will call the technique restrictive of competition. Secondly, implicitly recognized in paragraph B, a contractor who runs afoul of the price reduction provision is going to seek defects in the TDP for relief. Or he will take the position that the technical assistance was Government-imposed and not necessary for successful performance of the contract. In either instance, he will likely appeal the contracting officer's decision under the Disputes Clause. The case must then be resolved by the Armed Services Board of Contract Appeals.

F. NEW BIDDERS.

Evaluating bids of firms who are competing for the first time poses a special problem. Application of the technical assistance factor requires that

the Government verify the requirement for technical assistance supplied by the bidder. How then can this be done validly for new bidders. Obviously, little confidence can be attached to the bidder's submission. Not having produced the item for the Government previously, he can neither know precisely the problems he will encounter nor the assistance he will need.

CHAPTER VI

CONCLUSIONS AND RECOMMENDATIONS

A. CONCLUSIONS.

It is ironic that the DOD is encouraged to buy supplies at the lowest ultimate overall cost to the Government, yet finds so many obstacles to accomplishing this goal. Technical assistance provided to contractors is a case in point. The DOD frequently provides technical assistance to contractors in the form of inspection assistance and engineering support to production. The amount of the assistance depends upon the commodity, the technical data package, and the experience and capabilities of the contractor. It can vary greatly from contractor to contractor. The costs to the DOD of the support are substantial. They represent a very real cost to the Government. Production engineering and quality assurance personnel of DOD regularly travel to contractor plants to provide assistance at Government expense. Yet little has been done in attempting to include these costs in the evaluation formula.

At the outset of this research, it was thought that it might be an appropriate time to develop methodology allowing technical assistance to be evaluated as an "other factor" in bid evaluation. The research results do not support this hypothesis. The hurdles are too many and too formidable. The expected benefits of the technique do not appear to be sufficient to offset the high estimated costs of overcoming the obstacles. At best, the method would have limited application due to the special circumstances supporting its usage.

Technical data packages never seem to be totally error-free. Data systems to support evaluation of technical assistance costs do not exist and would be very costly to develop. Finally, the coup de grace is the requirement by the Comptroller General that the amount of technical assistance be precisely quantifiable and verifiable. At present, technical assistance costs cannot be stated and measured with such precision.

The best hope for incorporating technical support into the award decision is through the determination of responsibility. The ASPR allows contracting officers to require prospective contractors to meet additional or special standards of responsibility. Naturally, the standards have to be justified. It would appear that if a contracting organization can show that the costs of technical support are potentially high, then a strong case can be made for the extra standards. High costs can be indicative of a need for special capability on the contract.

Vendor rating systems in industry have been suggested as models for the Government to follow. In reality vendor rating systems are used subjectively by firms in arriving at a decision regarding the award of a contract. A vendor's rating is considered in conjunction with price, financial status, management and technical capability. Hence, the vendor rating is an element of responsibility and not responsiveness. In effect, industry can make decisions based on degrees of responsibility, a luxury not available to the DOD.

Closely related to responsibility is the suggestion by field personnel that a process control specification be developed and used on contracts with historically high costs of technical assistance. The suggestion has merit. Similar documents used to control the quality assurance practices of contractors have been used successfully. Preventing or reducing the need for assistance by the Government seems a rational way to deal with significant costs of technical support.

B. RECOMMENDATIONS.

As discussed in the previous paragraph, the study team does not recommend attempting to incorporate technical assistance costs as an "other factor" in the bid evaluation process. The obstacles are too great. Even testing cannot be recommended at the present time. However, recommendations can be offered which would assist in the control of technical assistance costs and would possibly allow for the reconsideration of the "other factor" concept in the future. These recommendations appear below.

1. Develop "additional" or "special" standards of responsibility for application on procurements where and only where high costs of technical support are anticipated. Envisioned by the recommendation are standards which set forth requirements for: (a) previous experience in producing the item or (b) for specialized skills and equipment. The consensus of those interviewed in connection with this study was that high technical assistance costs are usually associated with inexperienced contractors with limited engineering competence. The ASPR mentions these circumstances as supporting the application

of additional standards of responsibility. It is recognized that "additional" or "special" standards are the exception and not the rule in determining responsibility of prospective contractors. Hence, the recommendation must be implemented with discretion. Contracting organizations must be able to document that technical assistance costs have been historically high enough in the commodity being purchased to justify the increased standards. Previous decisions of the Comptroller General cited in paragraph IV E show that special requirements are acceptable if justified and not restrictive of competition. Previous minimum experience in manufacturing the item and special licenses and certificates are examples of special standards which have been upheld by the Comptroller General.

2. Develop a process control specification to be used on contracts with significant production engineering requirements. As discussed previously, precedents for this recommendation are firmly established. MIL-Q-9858A and MIL-I-45208A have been used successfully for a number of years. Both these specifications require contractors to establish control systems closely akin to the type proposed by this recommendation. The recommendation could be (1) an adjunct to 1 above or (2) a separate requirement. However, it is suggested that the course in (1) be followed, with the process control requirement being imposed as a special standard. The Government would then receive firm assurance prior to award that a prospective contractor could institute and implement a control system. The costs of the control system would be passed on to the Government. Hence, the requirement should be

initially invoked only on those contractors where significant cost benefits could be expected. These are the contracts for commodities where the Government has furnished substantial technical assistance in the past.

3. Investigate ways to refine existing data bases so that technical assistance costs can be more precisely identified. Throughout the report the absence of specific cost data related to technical assistance has been pin-pointed as a hindrance to efforts for improvement. It is self-evident that if the DOD can show that the costs are a burden, higher echelons will be more sympathetic to plans for improvement. It should be recognized that the technical assistance costs are primarily borne by personnel outside the procurement and production organization. Hence, any changes in data systems would be outside the control of procurement officials. Realistically, convincing quality assurance and engineering management of the need for the changes may be no easy task. Offsetting this problem is the fact that Logistics Engineering Directorates are now being established in the major subordinate commands. Since the organizations are new, the time may be ripe for proposing changes.

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